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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,404	07/17/2001	Harald Schwahn	49741	2640
26474	7590	03/31/2004		
KEIL & WEINKAUF 1350 CONNECTICUT AVENUE, N.W. WASHINGTON, DC 20036			EXAMINER TOOMER, CEPHIA D	
			ART UNIT	PAPER NUMBER

1714

DATE MAILED: 03/31/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/889,404

Applicant(s)

SCHWAHN ET AL.

Examiner

Cephia D. Toomer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1(a, f, g and h), 2, 7-9 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP704519 with US 6,579,329 as the English translation, in view of Gasoline FAQ (hereinafter Hamilton).

EP teaches a gasoline detergent additive comprising at least one amine that carries a hydrocarbon radical having an average molecular weight of from 500 to 10,000 and at least one conventional carrier oil (see abstract). The hydrocarbyl radical of the amine may be polypropylene, polybutylene or polyisobutylene (see col. 2, lines 23-37 and 51-54). The at least one carrier oil may be polyethers or polyetheramines of propylene oxide and/or butylenes oxide or the carrier may be esters of mono- or polycarboxylic acids with alkanols or polyols. EP teaches that a single oil or a mixture of the carrier oils may be used (see col. 3, lines 8-49). EP also teaches that amides and

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imides of polyisobutylsuccinic anhydride may be present in the composition. Suitable fuels include leaded and unleaded gasoline (see col. 4, lines 7-12). The components are present in the fuel composition in an amount from 10 to 5000 ppm (see col. 4, lines 12-15). EP teaches the limitations of the claims other than the differences that are discussed below.

EP fails to teach the physical properties of the gasoline (claims 1 and 11-13). However, Hamilton teaches these differences.

Hamilton teaches that the 1990 Clean Air Act amendment and CARB phase 2 (1996) specification for reformulated gasoline sets forth gasoline that contain not more than 42 vol % aromatics, not more than 150 ppm sulfur, not more than 21 vol% olefin, not more than 1.0 vol % benzene and not more than 2.7 wt % oxygen (see Table on page 16).

It would have been obvious to one of ordinary skill in the art to have used a gasoline that possesses the claimed physical properties because Hamilton teaches that such fuels produce fewer emissions and are standard fuels and because these fuels in combination with the detergent of EP would reduce deposits in the intake system of the engine and reduce emissions (see EP; col. 1, lines 34-40).

4. Claims 1(b), 3 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO9603367, with US 5,879,420 as the English translation, in view of Hamilton.

WO teaches a fuel additive and fuel composition comprising the reaction product of PIB having an average degree of polymerization P of from 10 to 100 with nitrogen

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oxides or mixtures of nitrogen oxides and oxygen (see abstract; col. 3, lines 10-24; claim 1). Suitable fuels include leaded and unleaded gasoline (see col. 8, lines 58-59). The reaction product additive is present in the fuel in an amount from 10-5000 ppm (see col. 8, lines 24-26). WO teaches the limitations of the claims other than the differences that are discussed below.

WO fails to teach the physical properties of the gasoline (claims 1 and 11-13). However, Hamilton teaches these differences.

Hamilton teaches that the 1990 Clean Air Act amendment and CARB phase 2 (1996) specification for reformulated gasoline sets forth gasoline that contain not more than 42 vol % aromatics, not more than 150 ppm sulfur, not more than 21 vol% olefin, not more than 1.0 vol % benzene and not more than 2.7 wt % oxygen (see Table on page 16).

It would have been obvious to one of ordinary skill in the art to have used a gasoline that possesses the claimed physical properties because Hamilton teaches that fuels taught by WO are conventional gasolines and would possess these physical properties.

5. Claims 1 (c), 4 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP476485 with US 6,371,999 (Mohr) as the English translation in view of Hamilton.

EP teaches a detergent fuel additive for gasoline comprising polyisobutylaminoalcohols that are the reaction products obtained by epoxidation of PIB followed by the nucleophilic cleavage of the epoxide with ammonia or an amine(see

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abstract; col. 1, lines 16-21; col. 2, lines 52-54). The PIB have a molecular weight of from 500-5000 (see col. 2, lines 63-64). The additive is present in the fuel in an amount from 50 to 5000 ppm. EP fails to teach the physical properties of the gasoline (claims 1 and 11-13). However, Hamilton teaches these differences.

Hamilton teaches that the 1990 Clean Air Act amendment and CARB phase 2 (1996) specification for reformulated gasoline sets forth gasoline that contain not more than 42 vol % aromatics, not more than 150 ppm sulfur, not more than 21 vol% olefin, not more than 1.0 vol % benzene and not more than 2.7 wt % oxygen (see Table on page 16).

It would have been obvious to one of ordinary skill in the art to have used a gasoline which possesses the claimed physical properties because Hamilton teaches that fuels taught by EP are conventional gasolines and would possess these physical properties.

6. Claims 1(d), 5 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martischius (US 4,959,077).

Martischius teaches a fuel for gasoline comprising a copolymer of a C_2 - C_{40} olefin with maleic anhydride having a total molecular weight from 500-20,000 wherein the carboxyl groups are wholly or partially converted to a salt with an alkali or alkaline earth metal and the remaining carboxyl groups are reacted with an alcohol or amine (see abstract). The copolymer is present in the fuel in an amount from 10 to 2000 ppm (see col. 8, lines 50-53; claim 1). Martischius teaches the limitations of the claims other than the differences that are discussed below.

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Martischius fails to teach the physical properties of the gasoline (claims 1 and 11-13). However, Hamilton teaches these differences.

Hamilton teaches that the 1990 Clean Air Act amendment and CARB phase 2 (1996) specification for reformulated gasoline sets forth gasoline that contain not more than 42 vol % aromatics, not more than 150 ppm sulfur, not more than 21 vol% olefin, not more than 1.0 vol % benzene and not more than 2.7 wt % oxygen (see Table on page 16).

It would have been obvious to one of ordinary skill in the art to have used a gasoline which possesses the claimed physical properties because Hamilton teaches that fuels taught by Martischius are conventional gasolines and would possess these physical properties.

7. Claims 1(e), 6 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP639632 in view of Hamilton.

EP '632 teaches a lead-free gasoline composition comprising alkali metal and/or alkaline earth salt of an alkyl sulfosuccinate (molecular weight of 2000-3000). The additive decreases wear of valve seats when 0.5-100 mg/kg of additive is present in the fuel (see abstract in its entirety). EP '632 teaches the limitations of the claims other than the differences that are discussed below.

EP '632 fails to teach the physical properties of the gasoline (claims 1 and 11-13). However, Hamilton teaches these differences.

Hamilton teaches that the 1990 Clean Air Act amendment and CARB phase 2 (1996) specification for reformulated gasoline sets forth gasoline that contain not more

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than 42 vol % aromatics, not more than 150 ppm sulfur, not more than 21 vol% olefin, not more than 1.0 vol % benzene and not more than 2.7 wt % oxygen (see Table on page 16).

It would have been obvious to one of ordinary skill in the art to have used a gasoline that possesses the claimed physical properties because Hamilton teaches that fuels taught by EP '632 are conventional gasolines and would possess these physical properties.

8. Claims 1(i), 10, 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 1,368,532.

GB teaches a gasoline composition comprising 2.5 to 2000 ppm of a detergent additive that is the reaction product of a phenol, aldehyde and amine. The additive may be combined with any commercial gasoline have from 10-60 vol. % aromatics, 1-30vol. % olefins and not more than 0.02 wt% sulfur (see page 1, lines 26-32, 49-77 and Table 1). All of these parameters overlap applicant's range. The phenolic reactant is an alkylphenol wherein the alkyl group has a molecular weight from 400-1500 and may be polybutylene. The aldehyde is formaldehyde (see page 2, lines 2-16 and 63-75).

GB fails to specifically disclose a fuel composition wherein all of the physical properties of the gasoline are present. However, It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the aromatic, olefin and sulfur contents through routine experimentation for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation

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unless there is a showing of unexpected results that properly rebuts the *prima facie* case of obviousness. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See also *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges overlap or lie inside ranges disclosed by the prior art, see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976; *In re Woodruff*, 919 F.2d 1575, 16USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2131.03 and MPEP 2144.05I.

9. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 1,368,532 as applied to claims above, and further in view of Hamilton.

GB fails to specifically disclose the benzene and oxygen content of the its gasoline. However, Hamilton teaches these differences.

Hamilton teaches that the 1990 Clean Air Act amendment and CARB phase 2 (1996) specification for reformulated gasoline sets forth gasoline that contain not more than 42 vol % aromatics, not more than 150 ppm sulfur, not more than 21 vol% olefin, not more than 1.0 vol % benzene and not more than 2.7 wt % oxygen (see Table on page 16).

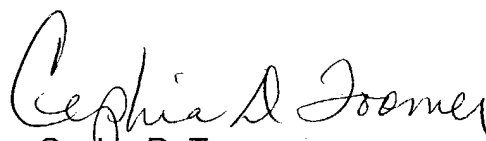
It would have been obvious to one of ordinary skill in the art to have used a gasoline which possesses the claimed physical properties because Hamilton teaches that fuels taught by GB are conventional gasolines and would possess the claimed oxygen and benzene content.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cephia D. Toomer whose telephone number is 571-272-1126. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Cephia D. Toomer
Primary Examiner
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